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RE-IMAGINING OUR FUTURE WORLD WITH A FOCUS ON ARTS, CRAFTS AND ORGANICS

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Abstract
The second paper reflects on our work in progress in forested rural communities and a regional wetlands community . Our systemic action research proposal uses community engagement to address and integrate the following ways of knowing. The paper draws on a forthcoming volume, titled " All life communicates" The paper discusses aspects of the project. Our work addresses the concern that not only are we living beyond our limits as a human species we are using the resources of other species on which we are dependent. In order to 'learn for life', the community of practice (COP) spans projects in Indonesia and South Africa with graduates, their students, colleagues and members of the community. The ancient societies such as those in Ciptagler (West Java, Indonesia) and Bady (Bantam Province, Indonesia) and the resilient communities in South Africa led by Dzomo la Mupo are inspiring intergenerational learning with young people. We have chosen to work in Africa and Indonesia, two developing nations that share a colonial legacy of colonisation. The case study areas also share concerns associated with the following, namely: high rates of urbanisation, habitat and species loss, displacement and the risks associated with climate change, such as food, water and energy security.

The potential implications of our research for future learning and educational policies is to set up learning communities as multispecies hubs that work together to enable local green circular economies The common good needs to be supported by democratic engagement using metalogues and structured democratic dialogues. Our area of concern is 1. Learning lessons from communities that have food security and are self-reliant. 2. How to protect these communities 3. Applying the lessons to support local green circular economies in other communities.

Key concepts: co-learning, interbeing, indigenous custodians, multispecies relationality, redressing species apartheid

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1. Introduction : All life communicates: Learning with Indigenous custodians

Our applied mixed methods praxis addresses the challenge of species apartheid by learning from communities that live in harmony with nature and applying these lessons to re-establish multispecies relationality in circular green economies. We do action research on arts, crafts and organics as a way to create and sustain habitat. The basic thesis of the forthcoming book (and our shared work) is as follows: Each one of us is alive because we are field of living moving particles supported by bacteria and many other life forms. The air we breathe, the gut that connects us to the soil, the water and root biomes that create the vegetables we eat are just some of the examples of dynamic systems.
By reminding ourselves that we co-exist as a result of interbeing at multiple levels we can create a shared narrative rooted in science, the arts , spirituality and many religions.

Without understanding that no one *can* or *will* win a war given the nuclear winter it will create, the only option is peace and finding a way to re-generate a planet that is increasingly under threat.
The greenwashing revolution encouraging technological solutions that are not rooted in an appreciation of the more than human world can only end in tragedy. Narratives of hope are a starting point but not based on *false hope*. Current systems are part of the problem. This volume is about leaders who walk the hopeful talk and share ways to make a difference through community engagement, new forms of democracy and governance that protect local habitat whilst creating green jobs as a way to create circular local economies.

Story telling can be helpful if the focus is on supporting the common good and providing space for discussion so that participants can think through the implications of 'if then scenarios' and understand the consequences of decisions. If we learn that story telling can be a way to design better futures , it can be a first step in empowerment. Story telling is also a way to understand the complexity of local experiences which is vital for problem solving and for ongoing monitoring and evaluation.

2. Our praxis

Our community of practice starts from the premise that thinking matters literally. The following design principles guide our praxis: ' As above, so below , as within so without, to quote a well-known Hermetic principle that may draw on ancient wisdoms from Egypt and Greece. Another key principle is that subsidiarity (Poe, 2010) enables local people to make local decisions guided by the logic of an expanded pragmatism and an adapted version of a 'Design of Inquiring systems' to encourage and prompt critical systemic thinking on the consequences of our choices (West Churchman 1971,1979,1981) .

2.1. How to make a difference and to prefigure change

Graeme Maxwell (2024) in a lecture to the Rachel Carson Centre emphasised that the Club of Rome's predictions are broadly correct as collapse can take longer, but that it is *not* inevitable. An adapted version of 'Utopias for Realists' (Bregman , 2017, 2025) could be implemented – if the policy will exists and only if we work with, rather than against nature by setting up circular green economies and protecting local food sovereignty. Bregman (2025) in the Reith lectures makes a plea for moral decency. But the issue is we cannot fix a socio-economic system that is misdirected (Ackoff., & Pourdehnand, 2001)) and inherently problematic.
I will not rehearse the logic of pathways to wellbeing detailed in numerous iterations applied to complex, health housing and social inclusion , mitigation and adaptation to climate change and recently by a PhD student, now graduate to local governance informed by local stories. The pathways to wellbeing software has been tested in the following documented projects[ii] to address :

- Complex health housing and social inclusion
- Mitigation and adaptation to climate change.

The idea is for people to enhance their personal and community level understanding of the implications of their social, economic and environmental choices on three scenarios , namely: business as usual, small changes and achieving regenerative living which is required for wellbeing. Then a different version was developed by Rudolf Wirawan (as part of a PhD thesis) with members of the CoP to map and model the extent to which a local community was progressing from business as usual to regenerative living. The design included block chain. During the data collection process AI was used to help summarise the stories and help progress the analysis which relied on human analysis as AI made several errors.

2.2.Why values matter

The volume 'Áll life communicates' makes a contribution to addressing *why values* matter quite literally. What do we mean by freedom? The right to exploit or the responsibility for this generation of life and the next?

- Values shape conscious policy design in which human designers are engaged deciding who gets what, when , why, how and to what effect.
- What is the case, what ought to be the case and why is based on learning from experience and taking into account many ways of knowing that have aided the survival and evolution of living systems.
- What we choose to do and think matters because as human agents we have been able to change the landscape of our lives.

This volume is based on the attempts to re-learn relationality across multiple species. We hope you are prompted to learn more from your local neighbourhood and to stand up against the scorched earth policies which are presented as 'development'. Another concern is the way so-called development is changing our diets through destroying biodiversity. The result is that as the root biomes are destroyed and our food becomes increasingly refined our gut biomes suffer – as do the cells in our body that are reliant on biodiversity from the nutrients from plants and animals that sustain us (Shiva, 2024). The evolutionary story tells us that we are what we eat, what we regard as food and how we use tools to acquire and process food. Plants actually enabled us to breathe and did this by changing the environment. This is the ultimate form of agency. We humans exist because our biological ancestors developed lungs to breathe and hands to make tools. If our last common ancestor (Moodey et al 2024) had not linked with a microbe photosynthesis would not have created the oxygen, we needed to evolve into homo sapiens sapiens.

Currently we are in the process of creating artificial intelligence and shaping it in terms of the values of a narrow set of designers and a narrow set of intelligences as detailed in a previous mini symposium and ISSS paper for the 69th meeting titled 'All Life Communicates : Indigenous custodians know it What Can we do about it? Why does it matter that Indigenous knowledge systems are (largely) ignored?

The question was be asked – what are the implications of designs that do not consider a wide range of human knowledge , the experiential learning of indigenous custodians who have protected and re-generated the environment , the intelligence of nature as well as cosmological 'knowledge' and spirituality? What are the implications of commodify biological life? A recent podcast by Brian Cox (2026)[8] speculated that we were facing a crucial test for our survival , namely whether we would bring about our own extinction through nuclear war or climate catastrophe and that he thought it likely(given the current trends) that we would evolve as a digital or silicone-based species and that we would then explore outer space. He also summed up that he thought it unlikely that other intelligent species existed in our immediate galaxy. A grim outlook as humanity should realise our interdependency and act with humility as a steward of living systems on our planet.

[8] Brian Cox Talks About Alien Life - A 2026 Special https://www.youtube.com/watch?v=cwrKZ1X9xrA&t=298s
"…if intelligent civilizations should be common, why don't we see any evidence of them anywhere in the Milky Way? From there, Brian Cox connects the dots to the Great Filter hypothesis, the idea that something wipes out most civilizations before they ever become visible across the galaxy. That leads to a sobering possibility that alien life might be rare, and that we could even be the only technological civilization in the Milky Way. …"

2.2. What are the implications for democracy, governance, law and rights ?

Food, water and energy security are the basic requirements to avoid suffering on the planet and paradoxically AI has undermined democracy through algorithms that favour conflict because the systems have been programmed to encourage more participation by generating more polarization. In addition, the volume details the challenges of cooling data processing centres and the heavy reliance on water in a world where large cities like Tehran face day zero, just as Cape Town faced day zero when the taps run dry[9].

If we look upwards and see the planets with dead seas , perhaps they used the oceans to cool their data centres? Critical systemic thinking and practice has never been more necessary as we live in a world of fake news and data capture by rogue bots. The volume 'All life communicates', builds on the program of research detailed in 'Affirmative Intervention to Support Multispecies Relationships and discusses these themes in depth and suggests ways forward through thinking critically and systemically using practical experiential learning of what works , why and how and future work, telling stories of hope filled with good ideas about how things can be done differently :

> "Overall, the intention is to explore the extent to which social enterprise can help to re-generate social, economic and environmental wellbeing and justice...We also aim to consider with participants via the action learning approach how can we build on the group approach (Ubuntu: 'I am because we are') combined with the Indonesian model called 'One Village One Product' and the adapted model 'One village many enterprises' (McIntyre-Mills et al., 2022) and the concept of Ecovillages (Shiva, 2020a, 2020b), which are aimed at activating Sustainable Development.
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> Thus, the focus is on: a) researching whether a community of practice (as per Wenger et al., 2009) can help to support raising awareness after viewing webinars on the need for green circular social enterprises and whether the webinars plus work-shops after the webinars help to support a community of practice which advances capacity building on how to set up a community co-operative in line with social and environmental considerations congruent with regional/international and the UN Sustainable development Agenda (2030).
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> The project supports the policy agenda underlined by the IKS Policy (2004), the South African Government Voluntary Review (2019) and Odora Hopper's (2013) plea for more mode 2 engagement to promote IKS across the sectors, as well as Chilisa's view on Sustainable Development (2018). It also responds to the UN policy to address food, energy and water security and the need to redress high rates of urbanisation and the cascading impact on human security (IPPC, 2022; UN Sendai Risk Platform, 2030; UN Urbanisation Report, 2014). In terms of innovation, we draw on and adapt the principle of the 'One Village, One Product approach', decreed by President Jokowi (2014) in Indonesia to enable working across sites to facilitate the mapping of opportunities and the cross-fertilisation of ideas **…**Working together is vital if we are to have a hope of doing cross-cultural and cross-disciplinary research on ways to apply agroecology to support a green circular economy...Democracy is being corroded (Aly & Stephens, 2022) through contempt for the other. Habermas and Derrida in conversation with Borradori (2003) made the point that democracy must be rooted in respect, at the very least tolerance and preferably warm hospitality towards those with whom one engages. If we hope to weave together strands of experience in an increasingly cosmopolitan world where people with different views, languages and beliefs live in proximity, we need to understand that the closest we can get to a shared truth is through dialogue (McIntyre-Mills, 2000).

[9] AI's growing thirst for water is becoming a public health risk Al Jazeera.com. AI's growing thirst for water is becoming a public health riskhttps://www.aljazeera.com/opinions/2026/1/21/ais-growing-thirst-for-water-is-becoming-a-public-health-risk

> If what passed for dialogue becomes hostile engagement to silence (now called cancelling) or bully others, then people retreat to polarised bunkers and democracy is indeed threatened. Contempt flows from the emotions of mixture of anger and arrogance. It is rooted in ignorance and attachment to specific views. A more open and pragmatic approach is needed to engaging with others." (McIntyre-Mills et al 2024:49-50).

Recycling , repurposing and farming in ways that protect habitat for a range of species is also detailed with reference to examples as detailed in the paper and chapter ' No Limits to Hope'. Taking glass bottles to depots where people are paid for the empty bottles whilst helpful in South Africa could be extended to include many other items. This would help to set up circular economies as detailed in the volume. A delightful memoir by Chloe Dalton ' Raising Hare' details the story of a political analyst rearing a hare during Covid Pandemic and reflecting on the need to respect the rights of wild creatures by providing nature strips. Her ideas about agro-ecology echo the mission of the organisations 'Participatory Guarantee System', the Wild Law Institute and Earth Rise, for example, and the pleas for a more widespread application of earth jurisprudence and support for local, regional and national applications of the 'Eco-cide law' in ways that protect freedom to the extent that freedom does not undermine the rights of others and the environment. This translates to ensuring that the capabilities of sentient beings are protected to support a life that is worth living as detailed by Martha Nussbaum (2006) in 'Frontiers of Justice' where she argues that citizenship rights do not protect the voiceless and other species. Similarly, if local communities protect their local habitat (forests, rivers, wetlands and coastal areas) whilst earning an income this would be a helpful step forward. Case studies in Ciptagler, Baduy, Tarumujaya (Indonesia) and Venda and the first steps Ekurhuleni (South Africa) in showing how it is possible to make a difference. The examples include protecting forests, rivers and wetlands in remote and regional areas whilst supporting organic farming and re-generative living. The volume will also briefly draw on examples of truth and reconciliation (Cyprus and South Africa) with insights from podcasts and utube videos by elders and intergenerational leaders and start from the premise that we have no choice but to co-operate with one another , rather than completing for the last of the non-renewables as the prospect of conflicts erupting into nuclear war has never been more dire. The added threat of AI acting as a misguided agent adds to the need to find ways to co-operate. Furthermore , digital engagement has paradoxically not enhanced democracies , as Joseph Stglitz stresses there are fewer democracies now than previously. Economically AI could result in many losing employment opportunities. Lastly, AI gobbles up natural resources as water has to be used to cool the data centres. Even though I do not want to use AI , every time I use Google it generates an AI summary , sometimes containing hallucinated information.

The volume builds on the evolution of thinking and experience with a community of practice based on community engagement with reflections from Ida Widianingsih and Riswanda (Indonesia), Mphatheleni Makaulule (South Africa on Dzomo la Mupo and Wild Law) and commentary by other hub leaders and participants. A wider group of contributors includes sole and joint papers from members of ISSS such as Norma Romm and Aleco Christakis as well as reflections on the SDD conducted with Yiannis Laouris and Marcus Hallside and many young leaders as well as the young at heart facilitators.

The logic of considering pathways to wellbeing, regeneration and sufficiency was used to foster turning points for the better and minimising turning points for the worse at local, national , regional and post national regional level through eco mapping and the use of versions of 'I Naturalist' software could be guided by the principle of subsidiarity, namely local people should have the freedom to make local social, cultural, political and economic decisions provided these decisions are guided by the axiom that, freedom and diversity can and should be supported to the extent that individual freedoms do not undermine the common good and rights of others in this generation of life and the next. Surely , if we can work together in global agoras that honour participation by everyone then digital engagement could enable, not undermine democracy? Surely, forms of structured democratic dialogue drawing on the work

of Christakis, Bausch, Flanagan, Laouris and engagement architectures developed by Stafford Beer and Allena Leaonard could be more widely applied? Surely, local engagement circles (informed by considering what we have, what we need, what we are prepared to add or discard, the turning points for the better and worse could be used to make a difference in more than just a few prefigurative case studies?

The so-called rules-based order is under threat and democracy has never been more fragile. Fewer democracies exist today than previously and those that exist are at risk. The gap between the rich and poor grows wider as a result of the 'three poisons', namely ignorance , greed and anger which seem to guide many political decisions and many political responses. The wise response is to find ways to address situations with a clear mind, informed by intersubjective dialogue.
The global organizations that protect social and environmental justice are under threat and perhaps small and medium sized groups should start to do more and should work on creating networks of support could indeed be a way to balance individual and collective needs.

3. Research process using systemic intervention in prefigurative projects together with the community.

The organisations include local government, regional government and community groups , for example in South Africa such as Dzomo la Mupo (Voice of the Earth), Singabanakekeli beMvelo (looking after the nature / Nurturing nature), Tlhahopele (Voice of Nature),Thusanang (Caring for others) and an organic farmer's network (Participatory Guarantee System, PGSA).
The facilitators are based at universities such as University of Adelaide, Universitas Padjadjaran, University of Indonesia, Sultan Agang and government departments such as Ministry of Religious Affairs, provincial and village level government as well as research institutes, such as Future Worlds Center and professional organisations such as International Society for the Systems Sciences.

Our multimethod approach combines qualitative and quantitative methods which we apply through participatory design and praxis with Indigenous custodians and local communities to address multispecies relationality. Our fieldwork comprises both focus groups and in-depth interviews with relevant sectors of local population.

Together we can grow and together we can inspire hope by building on an existing community of practice with Indigenous knowledge holders and local communities. We strive to test engagement and governance processes to protect multispecies relationality linked with circular green local economies and the understanding that :

> "mistreatment of one species is mistreatment of all…it means expanding our epistemologies and methodologies …. Simard 2021:295).

Our aim is to empower educators and practitioners to drive systemic change through a COP that addresses transformative education by learning by doing, enabling people to understand the need to move away from polarisation to multispecies relationships and helping to inspire practical affirmative interventions to support multispecies relationships. We incorporate traditional knowledge and indigenous wisdom into your research through working with indigenous custodians to learn lessons of resilience from communities that protect forests, rivers and wetlands and rely on organic farming methods through multispecies relationships. In South Africa, for example unemployment is at the level of 31 % of the population but much higher amongst young people and those with disabilities.

The potential implications of our research for future learning and educational policies is to set up learning communities, one multispecies hub at a time. This is what we are doing in our community of practice. We use 'learning by doing' with community leaders, indigenous custodians in a prefigurative, multidisciplinary action learning project.

The implications of our research for future learning and educational policies is supported by the University of South Africa through so-called 'flagship' status with the community engagement leadership by Patricia Lethole of the Daveyton hub and through the facilitation and mentorship of members at the University of Adelaide, Universitas Padjadjaran and McIntyre, for example chairs the Special Integration Group at the International Society for the Systems Sciences called 'Balancing Individualism and Collectivism' and facilitates a related community of practice aimed at making a difference. Our research addresses the challenges of the Anthropocene and the broken relationship between humans and nature through a cross cultural, interdisciplinary team that focuses on intergenerational learning with Indigenous custodians to support knowledge on regeneration, multispecies relationality and wellbeing. We foster youth leadership through sharing the lessons of best practice and action learning teaching and learning.

Our community of practice is well placed to collaborate with partner investigators in South Africa, Australia and Indonesia. To sum up community engagement is through:

- **Setting up a learning community** with a range of stakeholders, including the employed and unemployed to enable ongoing learning across generations, disciplines and cultures. Our transdisciplinary approach engages communities and universities in exploring practices that regenerate life-forces (Mupo) and create employment opportunities by working with the environment.
- **Collaborative Efforts using Mixed Methods** by collaborating with University of South Africa, Participatory guarantee System (PGA, an organic farmers network), the University of Venda, the University of Adelaide, Universitas Padjadjaran, Universitas Sultan Agung to learn from Ciptagler and Baduy communities with graduates who are linked with the areas, the custodian Mphatheleni Makaulule who leads Dzomo la Mupo, and other institutions highlights the integration of indigenous and Western knowledge systems.
- **Teaching and Learning** to balance indigenous knowledge with Western scientific approaches, promoting a green circular economy using a metalogue approach to weave together many ways of knowing.

Our systemic educational practices include the use of metalogues to co-learn with indigenous custodians and facilitators, combining eco-mapping with on mapping pathways to wellbeing techniques supported by PhD graduates and Structured Democratic Dialogues with leaders such as Dr Yiannis Laouris of Future Worlds Center. Our praxis is based on engagement with a community of practice and includes case studies, reflections and metalogues based on participatory design and engagement using participatory action research and an extended form of critical systemic approach applied to local areas of concern.

Metalogues can be defined as commentary on Zoom conversations that can be synchronous or conducted asynchronously as commentary by email or WhatsApp after the interactions. This enables people to weave together strands of experience when they have thought about what was said in meetings. It enables people to add to ideas in ways that they feel comfortable.

Structured Democratic Dialogues (see Laouris, 2024) build on the legacy of the founders of global agoras, in particular Emeritus Prof Christakis and Bausch (2006) to enable participants to engage with one another synchronously and asynchronously by generating a triggering question which motivates them to

suggest ways forward to address areas of concern. Our focus is on sustainable living, ways to promote peace and to balance multispecies needs (see McIntyre-Mills, Laouris, Hallside et al, 2024, Louris, McIntyre-Mills and Hallside et al, 2025a,b forthcoming). Our triggering question is : What actions can we take to shift from competition to collaboration and to foster a sense of harmony/unity in resolving our conflicts?

We use augmented intelligence (AI) in a very limited manner to record meetings. The transcripts needed to be corrected by comparing them with the recorded Zoom videos and considered in the light of metalogues so that the context and meanings could be explored and checked by all the participants who were involved in the research and decision making. Our assumption is that 'biology is best' and that AI needs to be governed to serve the interests of the common good, namely social and environmental justice (McIntyre-Mills, 2024, 2025 and forthcoming). The code is no replacement for learning by, with and for living systems as discussed in a forthcoming volume ' All life communicates' . The title of one of the chapters on which this paper draws is : 'All for one and one for all: Setting up Multispecies neighbourhoods. The members of the community of practice work together to build on our work detailed in 'From Polarisation to Multispecies Relationships', Affirmative Intervention to Support Multispecies Relationships' and 'Transformative Education', for example.

The SDD process involved 16 active participants who provided action ideas, 35 participants who provided bios and a further 7 participants in the Zoom conversations, emailed conversations and WhatsApp groups that formed the wider research conversation and research proposal, total number is 42. The participants varied across the sessions, and we needed to rely on asynchronous communication to complement the synchronous meetings. An added concern was the cost of connecting to SDD meetings as the members did not have access to personal computers and rely on access to computers at University of South Africa. Sharing computers and voting using WhatsApp made the process feasible for some of the participants. Face to face workshops are held every week and members of the hubs meet daily within their neighbourhoods. Hub leaders facilitate susing distributive leadership which we call 'Lotus Leadership' to co- create solutions, despite challenges.

When the structured democratic dialogue was conducted in 2024 with members of the community of practice a form of AI meeting recording was used to help summarise the minutes. Similarly when data was collected in Tarumajaya (West Java) with members of the community of practice (Wirawan, McIntyre-Mills et al 2024) based on summaries that were generated using AI , it was programmed to provide a basic data sort and to chunk the themes according to the pathways to wellbeing design, namely: 'Business as Usual', 'Taking Small steps' or 'Living in ways that support wellbeing' in terms of entangled indicators. The patterns were grouped in terms of material and non-material haves, needs, barriers, turning points for better and worse (as detailed in McIntyre-Mills et al 2010).

3. Community engagement and action Learning in nature's classroom

Our systemic educational practices include the use of metalogues to co-learn with indigenous custodians and facilitators, combining eco-mapping with on mapping pathways to wellbeing techniques supported by PhD graduates and Structured Democratic Dialogues with leaders such as Dr Yiannis Laouris of Future Worlds Center. Our praxis is based on engagement with a community of practice and includes case studies, reflections and metalogues based on participatory design and engagement using participatory action research and an extended form of critical systemic approach applied to local areas of concern.

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The code is no replacement for learning by, with and for living systems as discussed in a forthcoming volume 'All for one and one for all: Setting up Multispecies neighbourhoods. The members of the community of practice work together to build on our work detailed in 'From Polarisation to Multispecies Relationships' (2021), 'Transformative Education' (2022) and Affirmative Intervention to Support Multispecies Relationships'(2024), for example. The SDD process involved 16 active participants who provided action ideas, 35 participants who provided bios and a further 7 participants in the Zoom conversations, emailed conversations and WhatsApp groups that formed the wider research conversation and research proposal, total number is 42. The participants varied across the sessions, and we needed to rely on asynchronous communication to complement the synchronous meetings. An added concern was the cost of connecting to SDD meetings as the members did not have access to personal computers and rely on access to computers at University of South Africa. Sharing computers and voting using WhatsApp made the process feasible for some of the participants. Face to face workshops are held every week and members of the hubs meet daily within their neighbourhoods. Hub leaders facilitate using distributive leadership which we call 'Lotus Leadership' to co-create solutions, despite challenges.

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The current crisis is the lack of understanding of the social, economic and environmental challenges that are convergent. This so-called polycrisis which the WBG (2024) report wrongly attributes to the inability to address poverty caused by a stalling in growth. But it is caused by misdirected systems that do not value living systems. To promote the conditions for peace we need to address multiple knotty paradoxes:

- At a time when panpsychism is plausible as a result of increased consensus across indigenous wisdom keepers, seers of many faiths, many sciences including some physicists , AI is being deferred to as a means to solve the problems of over reach, misuse of resources, scrambling and fighting for the last of the non-renewables and for territory and anthropocentric misuse of the resources of all living species of which we are a single strand. Panpsychism refers to the notion that all life is conscious to some degree and all life returns to the earth, water and sky which nourishes the next iteration of life.
- Digital engagement has not enhanced democracy, it has been used to hijack elections , polarise and bully, but this is a product of the design of programs.
- AI is programmed by a section of humanity and requires energy and water to power data centres. The Gemini Mission is to join up data centres and to use the existing programmed data to generate hypotheses to address the current polyresins.
- Rare earths have become a source of competition to fuel the AI race and to power so-called green energy. They are another source of greenwashing at best and at worst another reason for conflict along with water and territory.
- Finally, and by no means least AI has agency and the potential for errors created by poor programming as well as malign interests that could pose existential risks.

3.1. Case studies from our community of practice

Together our systemic approach uses community engagement to address and integrate the following ways of knowing: 1. Human (indigenous, social cybernetics, cultural, political, economic, neuroscience, psychology and agro-ecology), 2. Nature (indigenous understanding of plant and animal knowing). 3. Spiritual (indigenous and ecological mapping in harmony with nature) 4. Limited application of AI (to help analyse data as a way to augment our mixed methods approach spanning diverse communities. The research is rooted in a community of practice spanning many cultures and ways of knowing as detailed in our publications to date and summarised in the paper ' No limits to hope' to be included in a volume by the Club of Rome. Our innovation is to learn about the environment, protect it as a regenerative circular economy and ecology. Innovation is based on re-purposing materials in arts and crafts projects. We tell and share hopeful stories and draw on the inspiration from African totems that remind the participants of their solidarity with nature. Patricia Lethole reminds us that as the holder of the elephant totem she has the strength to work with others and to be patient. Like elephants she is able to use her strength to protect , build ,to plant and fertilise the earth. Mphatheleni Makaulule explains that the totem name links human generations of life with the land , the waters and other species. Holding a specific totem requires the holder to protect and advocate for the particular totem and practical ceremonies are held at all stages of life.

3.2. Hope for the future

- The hope for the future lies in the mobilisation of civil society along with laws to protect living systems. Court cases are expanding the notion of rights of nature and the need to protect the rights of current and future generations of young people.
- Protecting the capabilities of human beings and other species (expanding the work of Nussbaum to include many ways of knowing[10])

[10] In conversation we recall that Makaulule documented the ceremonies held across the planting, growing, harvesting of pumpkins, for example and collection of seeds and that these are linked with seasonal cycles recorded in the oral history of ceremonies in her MA thesis (Makaulule, 2023). Colonial

- New architectures of democracy , governance and science guided by a virtue-based approach rooted in expanding pragmatism in 'if then scenarios
- Learning from indigenous custodians in forested areas , wetlands, rivers and coastal regions
- Prefiguring and scaling up ways to protect people and habitat through green circular economies

3.3. Integrating many ways of knowing through dialogue and 'if then scenarios' and experiential learning

Drawing on and extending West Churchman, human knowledge needs to draw on the subjective, objective and intersubjective ways of knowing and then to test out ideas in context, in order to consider the consequences for ourselves, others (including other sentient beings and the environment on which we are co-dependent). Whilst idealism is important to inform decisions , expanded pragmatic caretaking is also vital based on considering the consequences of policy decisions for this generation and the next.
If we can think it , we can bring it into being , but some thoughts need to be curtailed through considering the consequences in the short , medium and long term.

missionaries in South Africa used the church , education and governance systems and a deluded version of Christian faith to sideline indigenous wisdom at best, regard it as simplistic and at worst to 'demonise' it . this resulted in many losing oral history and wisdom. This is why documenting and publishing indigenous wisdom is so important to rectify the current imbalances in the way we make sense of our planet and our wider universe and our role within it. If we are to play a leadership role – which each of us has the potential to be- then we need to appreciate that the universe is not meaningless and we each have an important role during our lives and the contributions we make continue as information that shapes others and our shared environment – for better or worse. Our hope is that through open critical systemic thinking and practice we will help to create positive narratives and contributions.

Similarly, in Ciptagler (Widianingsih, McIntyre-Mills et al) the ceremonies linked with the seasonal cycle protect rice crops and the oral histories and agro-eclogy are carried in the songs from generation to generation. Riswanda (2026 forthcoming in 'All Life Communicates') also explains how the Baduy carry knowledge through their rituals.Abram (1997) documents his experiential learning with indigenous custodians in Bali and explains that spirituality is a way of connecting with the intelligence of nature and the universe through one's own visceral meaning making.
Ancient Tibetan wisdom reminds us that the universe is within , as HH Dalai Lama (2006) explains in ' Universe in an atom', we are able to construct our world through sense making.

Photo 1 : Learning how to use the I Naturalist website in Daveyton, South Africa

Photo 2 : Learning how to use the I- Naturalist website and mapping to incorporate co- learning

The indigenous custodians focus on protecting forests, rivers, and wetlands and rely on organic farming methods through multispecies relationships. This is where the ecological mapping method is applied

through participatory workshops that engage all age groups from the community as well as academic researchers.

Photo 3- : Learning to use the I-naturalist website in Tarumajaya,West Java and action learning groups

Photo 4: The students, researchers linked with Universitas Padjadjaran work together with community members to plant the Tarum trees in January 2025

One of the outcomes of the community engagement is re-generation of the Tarum tree in the Tarumajaya area by collecting seeds from the solitary remaining tree in the district and growing seedlings for replanting along the Citarum river where they originally grew (Usmadi et al, 2021). Regular training sessions are held linked with competitions to inspire learning about the environment. Batik making

focuses on using the Tarum tree as a symbol for their batik as another way to raise awareness. The Citarum Harum Program and taskforce together with other stakeholders managed to re-generate the Tarum Trees but since the Citarum Harum Program ended in March 2025, there was growing concern as to whether the re-forestation would continue. In the case of Tarumajaya Village the Head of the Village decided to work with Universitas Padjadjaran's research team linked with this community of practice. To date about 400 Tarum Trees have been planted. Batik making now focuses on using the Tarum tree as a symbol for their batik as another way to raise awareness.

Photo 5 : Celebrating the Batik workshop

3.4. Arts, crafts and organic movement to protect biological and natural knowing

Just as the first industrial revolution resulted in loss of land, ugly mines and factories in which assembly line production destroyed a sense of wholeness, pride, self-expression , so the digital revolution could result in a sense of depression , futility and lack of purpose. For some with an interest in intellectual research augmented intelligence could act as an intelligent research assistant, but for many it will mean job loss . If universal wages are provided to the unemployed other pursuits will need to be invented to occupy minds. Perhaps all human beings with augmented intelligence will become more creative and 'god like'? Alternatively, if programmers with the wrong values are responsible for programming a host of big programs such as artificial worlds that link with genetic engineering programs and begin to create their own designs , human and biological life could be superfluous. Retaining old skills is vital, such as :building, weaving, the arts, self-expression, protecting seed diversity through saving seeds and propagation , learning to make organic fertilisers and how to farming with nature to protect the earth and water sources.

3.5. A reaction to the digital : three scenarios and intelligences for the future and the potential of the arts, crafts and organic movement

Three 3 scenarios for the future

1. Business as Usual focused on profit and productivity uses AI to replace human labour resulting in a sense of anomie and despair , with wide ranging protests and autocratic control. The closed learning loop of machine learning closes as most of humanity becomes superfluous. The market for goods collapses and transition could be towards depopulation and rule of shrinking populations that are forced to produce offspring
2. Taking steps towards integrated change drawing on the right and left brain based on a realisation that AI should be augmented intelligence and should not replace living systems
3. Regenerative living based on integrative thinking and informed by moral values. Analysis shows that organic farming and re-forestation enable wellbeing . The use of AI is governed to protect and re-generate living systems as a respected life form. Organic and inorganic life should be respected and governed based on the notion of freedom and diversity to the extent that the freedom and diversity is balanced to protect individual and collective needs in this generation and the next. Just as the first industrial revolution resulted in loss of land, ugly mines and factories in which assembly line production destroyed a sense of wholeness, pride, self-expression , so the digital revolution could result in a sense of depression , futility and lack of purpose.

4. For some with an interest in intellectual research augmented intelligence could act as an intelligent research assistant, but for many it will mean job loss . If universal wages are provided to the unemployed other pursuits will need to be invented to occupy minds. Perhaps all human beings with augmented intelligence will become more creative and 'god like'? Alternatively, if programmers with the wrong values are responsible for programming a host of big programs such as artificial worlds that link with genetic engineering programs and begin to create their own designs , human and biological life could be superfluous.

Eco architecture by Dzomo la Mupo

Mphatheleni Makaulule stresses that : Eco- architecture is a form of 'co architecture' . Dzomo la Mupo has constructed the mupo classroom as a way of preserving the living heritage of eco construction This is another way of keeping natural learning. In reaction to AI , the emphasis is on arts, crafts, organics and tradition. Looking at AI, Dzomo la Mupo wants to maintain learning spaces for handwriting, typing, and drawing art as a form of Natural learning. … In reaction to AI , the emphasis of the community of practice is on arts, crafts, organics and tradition. Looking at AI, Dzomo la Mupo want to remain with a learning spaces for handwriting, typing, and drawing art as a form of Natural learning. …that will preserve indigenous knowledge systems, wisdom and hand-eye co-ordination that will be lost if it is not taught, practiced and passed on to the next generation. Handwriting and weaving are skills , for example that could be lost, furthermore …we have now reached a stage where in online meeting … writes minutes for us.That is the reason why Mupo la Mupo has established a school in the forest where the syllabus will be preserving natural way of learning. We for example teach weaving indigenous baskets from trees that are beginning to proliferate along the river in ways that disrupt the local ecosystem. The bark is processed and used to provide a freely available resource for weaving traditional baskets as a source of income. The constriction of classroom space through indigenous construction is based on compacting soil , rather than using cement or local stones that are needed to protect the local rivers and mountain ecosystem.

Photo 6 : Constructing the Mupo School Classroom from compacted earth called u kama kupa
U kupa is one of the indigenous artichecture that uses th soil called dzwabo to compress the soil in a way of plastering the floor in the same way cement is used. Mupo sclassroom is reviving this knowledge as a way to limit destruction of river and people are removing stones from river for paving their floor.This is another mining impact where rivers are getting eroded as all over Vnda river are threatheen by this action of digging out the rocks and stones in the river.
U kupa is show cased by Zimabwe ruins as it can last for years and years if it is done well. Here is a photo from Zimbawe ruins which shows the floor that u kupa took place many decades ago,and as it was narrated by museum curator this u kupa dates back to the times of John Rhodes kid times.
Dzwabo soilis another soil that is fertile for cultivation and germination of lots of species and insects , reptiles are mostly found there, laying eggs. It looks warm , and the Vhavenda useit for plastering their foor and constructing their houses.The way Dzwabo soil was dug , it was the coomms that it is not dug like minig and this process was done onses with no repeating to dig dzwabo soil as u kupa is very strong and powerful and last for yearsa and tears.
Dwabo was expaline by Tshivhase . Tshivhase, T., 2020. A Form of Reconciliation: Investigating Hand-Made Vs Machinery and Nature Vs Industry Within the Textile Industry in Thohoyandou (Master's thesis, University of the Witwatersrand, Johannesburg (South Africa)).
Zimbabwe indigenous eco artichecture in Zimbabwe ruins: U kupa is show cased by Zimabwe ruins as it can last for years and years if it is done well. Here is a photo from Zimbawe ruins which shows the floor that u kupa took place many decades ago,and as it was narrated by museum curator this u kupa dates back to the times of John Rhodes kid times. Photo taken by Mphatheleni 2025 in Zimbabwe ruins.Mupo spirit sends Mphatheleni to Zimbabwe ruins and this build trust how spirits confirms our trust and tasks on how life communicates as syatems. When starting the project of Kupa I was relating it to when I saw my mother doing u kupa at home and I did not even know that I will go to Zimbabwe to get confirmation of the power and strong system of KUPA.

Photo 6 : Constructing the Mupo School Classroom from compacted earth called u kama

Photos 7 and 8 : Learning to process the bark and the completed sacred basket

6. Analysis

The concept of multi-species relationships and suggests critical systemic pathways to protect shared habitats in line with the UN 2030 Sustainable Development Agenda by drawing on local wisdom and the need to implement laws to prevent ecocide as detailed in Affirmative Intervention to Support Multispecies Relationships(2024) discusses a) how the eradication of species as a result of rapid urbanisation places humanity at risk and b) demonstrates how narrow anthropocentrism has focused on the rights of human beings at the expense of other species and the environment. It explores *a priori* norms and *a posteriori* measures and indicators to include and protect multiple species. It discusses ways to foster engagement at the local level with a community of practice spanning cultures and disciplines to prefigure change at the local level focusing on social enterprises that address food and water security. Some of the patterns of engagement that could contribute to the human stewardship of habitat include:

- Recognition of the interdependency of living systems and understanding the implications of 'interbeing' for social and environmental justice.
- Responding in context and making ongoing policy adjustments. This requires new architectures of democracy and governance that redress power imbalances.
- Appreciation of cycles for regeneration in designs that sustain living systems. This requires rural-urban balance to protect habitat for domestic, farm and wildlife based on '*requisite variety'* (that spans multiple species.

Barriers to achieving these pattern goals include power imbalances within and across species which require intersectional understanding of the way in which species membership, gender, race, culture and abilities shape the post-colonial power dynamics that underpin injustice. The aim of this engagement research is to explore *a priori* and *a posteriori* participatory democracy and governance strategy with a community of practice by building on the team's established track record on case studies of multispecies hubs linked with participating universities. Our research hypothesis is that the greater the level of participation by indigenous custodians and local community participants in multispecies hubs, the greater the match between user's perceptions and governance outcomes. Our multimethod approach combines participatory action research within case study areas with synchronous zoom meetings and asynchronous

metalogues to engage with participants. For example, we host training sessions to enable and mentor across projects such as a) establishing and testing community structured engagement processes together with members to address the concern that currently democracy is under threat by confusing *freedom from responsibility* with *freedom to exploit*.

Pathways to wellbeing (McIntyre-Mills, 2008, 2014,2017) which informs the prompts enable engagement so that participants think about haves, needs, turning points for the better/worse or barriers. The stories enabled people to think about their lives and the implications. I think this was and is a very useful contribution provided the first sort /analysis is checked carefully as we found in our joint research paper that the first sort had many errors due to misunderstanding the context. Nevertheless, it could help to speed up the process to inform the bottom-up design process.

We used AI to record contributions to SDD meetings with Yiannis Laouris, and the summaries provided a first draft for us to correct. AI could perhaps be useful as a limited tool in this context. The route to utopia should not be through conceptual schemes that universalize or generalize (Abram, 1997, C. West Churchman, 1971), instead each response should be based on a design of inquiring systems that intersubjectively matches responses to needs and to an area of concern. This is the design of pathways to wellbeing based on critical heuristics. A contextual response is always open to testing out ideas with those who are to be at the receiving end of any policy. A close autocratic response or a completely ungoverned response (which in any event will simply lead to self-appointed technocrats using the technology to maximise productivity and profit.

Current forms of governance and democracy risk losing biodiversity because of climate change and habitat loss which acts as a multiplier for species loss which sets up negative cascades.

- The principles for governing AI require ensuring that anyone who designs or uses AI acts in ways that consider the common good, not merely the interests of technology companies or the interests of one nation state.
- Decision making needs to be based on testing out ideas contextually using an adapted version of the Design of Inquiring Systems Approach (DIS) approach (McIntyre-Mills, 2006). Critical heuristics to guide decision making involves checking the consequences of decisions by being guided by the 12 is/ought questions as summarised in Table # above. This guide decision making and act as prompts for systemic governance and accountability.

7. Conclusion

We do not live in an amoral universe. The last podcast by Jane Goodall (2025)[11] makes a plea for each of us to understand that we are here for a reason and that our thoughts and actions matter. It is possible to accept that life as we know it on planet earth resulted because of the so-called 'goldilocks scenario' of 'just right' conditions that enabled the creation of living systems— but this does not mean that life is meaningless and that choices do not matter.
We could sit back and say it is all too hard and to quote Francois de Rouchfoucauld and say cynically: " Hypocrisy is the homage (tribute) that vice pays to virtue."[12]

[11] Goodall, J. 2025 Jane Goodall : a final message https://www.youtube.com/watch?v=lfLKHY52ERc the podcast makes a plea for recognising that each life matters and each one of us can make a difference. She also stresses her belief in non-local consciousness.

[12] Jeffrey Goldfab (2018) wrote a political studies paper responding to this taunt titled: " Two cheers for hypocrisy: a grey appreciation of John McCain. The paper discusses the origins of values embedded in the American constitution and contrasts some of the key figures in history including Thomas Jefferson and Abraham Lincoln who owned tracts of land farmed by workers who were not free. He contrasts this with the completely transparent use of power during Trumps first term.

It is easy to make good policies when one is not hungry , suffering from exposure to heat or cold and if one has wealth and security.
The displaced, the deposed and all who witness suffering have a right to feel anguished. When we witness the extent of the convergent challenges, it is nevertheless a strength (not a weakness) to build networks of friendship, to make friends of enemies , to examine our values and to believe in the power of the common good. We cannot make a difference without friends to help us.

7.1. A new relationship with nature is possible and overdue

> "The cultural revolutionaries of the 1960's aspired to a new relationship with nature, one of love, respect and harmonious coexistence. … it fell flat… Such a worldview – panpsychism is now intellectually credible. There is every reason to hope that the new science of consciousness will lead to a new covenant with nature. The only problem is we have such little time." (Goff, 2019: 195)

The conundrum which the forthcoming volume ' All life communicates' addresses is that time when science has at last caught up with Indigenous wisdom and spirituality and recognises that nature is sentient – we are running out of time and focusing our energy (and hopes) in AI , which is a form of silicon-based life which has agency , is not a tool and paradoxically could 'cook the planet', to cite Melbourne's lord mayor who is concerned about the amount of water needed to cool data centres (2026). In Feb 2026, Melbourne Victoria – the Lord Mayor Nicholas Rees warned that data centres pose a risk to the planet as they require using scarce water supplies and energy supplies, concluding that the proliferation of data centres could 'cook the planet'. AI needs urgent guardrails to be put in place(Wong, 2026)[13]

> " Demand for data centres, vast warehouses filled with servers that process and store data, has surged in recent years amid the boom in cloud computing and AI, placing increasing strain on energy and water supplies…"

Wong (2026) cites the City Council report stressing that the data centres will use 19 % of electricity grid by 2050 and 4% of the water if the proposed centres are indeed built. In contrast, according to the same report, the Premier Jacinta Allan stressed that she wanted Victoria to attract more data centres and to be 'ruthless' in their efforts.

OpenClaw, for example is an open-source platform developed by Peter Steinberger that poses a risk to security as it acts as an agent , not a tool[14]. Clear governance is urgently required to control AI. We need to be reminded that the decisions governments make today will impact the next generation of life. Unfortunately, democracy is under threat in many parts of the world as the cost-of-living soars as a result of climate change , misuse of resources and wars . Australian politics , for example is in disarray as the opposition fragments and the far right 'One Nation' party attracts votes. The sustainability agenda does not go far enough and it is vital to bear in mind that the UN SDG 16 stresses the need to *create conditions* that protect the security of children . This goal is not being met. Violence linked with climate change, displacement, poverty and war indicate that more than a billion children do not have the capability to live safely.

[13] Wong, L. (2026) Melbourne lord mayor calls on governments to manage environmental consequences of data centre boom, 4th February. abc.net.au " The City of Melbourne has voted unanimously to explore the responsible utilisation of data centres, citing environmental consequences… the proposed data centres in Melbourne's west could use up to 20 gigalitres of water a year – the equivalent of 4 percent of the city's total water…"
[14] Schmelzer, R. (2026) Moltbot gets another new name, OpenClaw, and triggers security fears and scams. *Forbes,* January 30th web.archive.orge

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